**OIB**
**Antarctic Flight 13, Antarctica Peninsula #1**

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|---|---|
| Aircraft | DC-8 |
| Flight Number | DC8-100121 |
| Flt Req # | 108002 |
| Flight Hours | 10.5 |
| Date | 11/3/09 |
| Purpose of Flight | ICE Bridge Peninsula-1 |
| Aircraft Status | Airworthy |
| Sensor Status | All installed sensors operational. |
| Significant Issues | None |
| Accomplishments | Low level survey over a variety of Peninsula targets. Blowing snow, cloud cover, and climb requirements to avoid high terrain allowed collecting data over 86% of the planned ATM data lines. DACOM, DLH, AVOCET, WAS, LVIS were not operated on this mission. Gravimeter, Ku-band radar, Snow radar, DMS, and POS were operational throughout the target areas. MCoRDS had a hard drive anomaly early in the flight but recovered to collect more than 4.75 hours of data. Conducted one pass over Punta Arenas for ATM instrument calibration. |
| Planned events | LVIS Peninsula flight on 11/4/09 |

## Flight Summary

Peninsula-1, FLT 13

November 3, 2009

Summary: We had another great mission!!

## Bill Krabill (Mission Principal Investigator):

official take-off 135402z

Begin descent 1640z.

Around 1800z, while on an ICESat groundtrack headed inland we experienced low ice fog. ATM's were collecting intermittent data in this area. Also MCords experenced a hard drive failure, and missed ~15 min of data along the same ICESat ground track. Given the amount of work left to be done for this flight we decided not to repeat this line, but to plan to include it in next year's surveys. Further, portions of all four of these ICESat groundtracks in this area [near Eltanin Bay] will be adversely impacted in the laser data. This would be an opportunity for the KU-band radar to shine.

MCords real time display exhibited clear definition of the bottom topography as we surveyed along the grounding line.

2146z climb out for return to base.

Plan for tomorrow: weather looks good for a high altitude LVIS mission over the northern Peninsula. To optimize the good weather window we plan on taking off at 14:00z

Individual instrument reports:

**ATM:** A successful mission was flown today. The DC8 once again flew on the Soxmap system well, surveying a new grounding line in the Eltanin Bay area. All systems operated well again, with approximately 200 million laser shots taken.

**MCoRDS:** The University of Kansas MCoRDS system collected data for 5 hours during the survey. About 1.3 TB of data were collected. Based on observations of the real time display the bed echo was clearly detectable for approximately 80% of the mission. The hard drive failure [mentioned above] resulted in ~15 minutes of downtime [~5%of the survey].

**Snow and Ku-Band radar:** Both the Snow and Ku-band Radars collected data for the low-altitude flight today. The Snow Radar recorded 275 GB of raw data and the Ku-band Radar collected 325 GB of raw data. Both radars displayed an a-scope response typical for low altitude missions over land ice. Both systems have no problems moving forward.

**LVIS:** was not present

**DMS:** worked well; routine; 10,000 images recorded.

**Gravity:** worked normally.

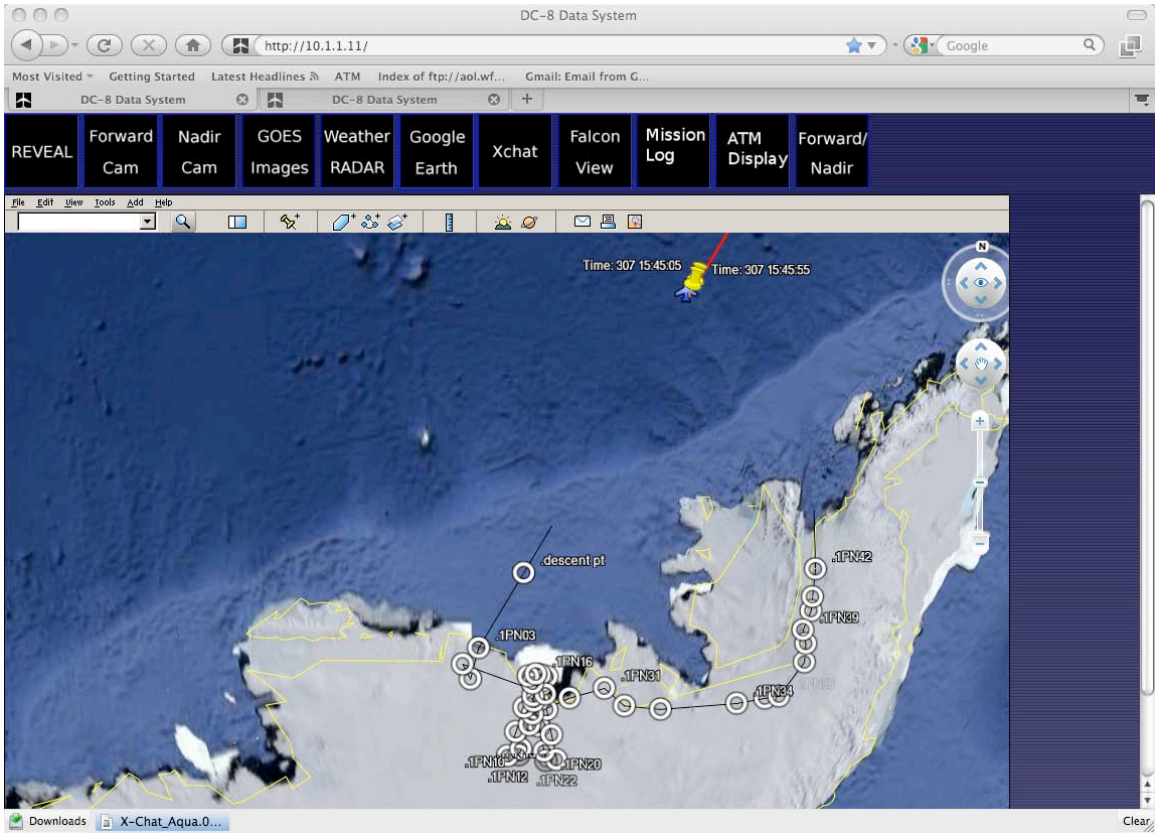
**POS/AV:** operated normally.

**DC8 on board data:** worked well.

**Jim Yungel (ATM Team):**

Mission 13 to the Antarctic Peninsula (Pen 1) departed Punta Arenas on schedule (11 am local TO to allow for an aircraft inspection,

and for additional science crew rest and better weather images).
Following transit to the target, lines following the ice sheet grounding line were flown, followed by 4 IceSat lines up onto the ice sheet. The IceSat lines were fairly clear at the ice edges, and gradually encountered blowing surface snow and ice fog as the elevation increased, with the upper 10% of each line losing laser data due to surface clouds. After the 4 IceSat lines, we resumed an "along the coast" track northeastward, occasionally encountering surface blowing snow which reduced the laser surface signal, but the ATM systems continued to tract the surface.
As usual, all sensors reported good data, and the weather seems promising for a high altitude LVIS mission tomorrow with another 11 am local TO.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# Peninsula 1

10.2 hours total / 3.8 hrs survey
440 knots transit / 250 knots survey